



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Leandre Adifon, et al.

Serial No.: 09/163,207

Filed: September 29, 1998

Title: ELEVATOR SYSTEM HAVING DRIVE MOTOR LOCATED ADJACENT TO  
HOISTWAY DOOR

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Docket No: OT-4329

Date: August 2, 2001

Examiner: S. McAllister

Art Unit: 3652

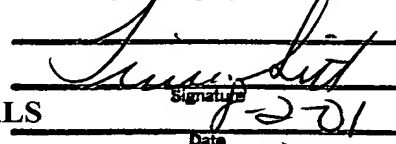
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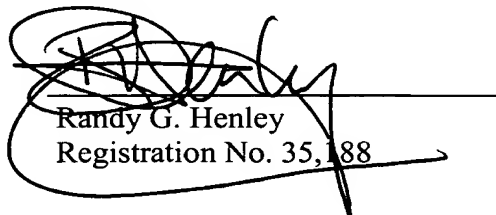
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Respectfully submitted,

Leandre Adifon, et al.

  
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Assistant Commission for Patents  
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**APPEAL TO THE BOARD OF PATENT APPEALS AND INTERFERENCES**

**PURSUANT TO 37 C.F.R. §1.191**

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**1. REAL PARTY IN INTEREST**

The real party in interest is Otis Elevator Company. The assignment of assignor's interest was recorded on December 14, 1998 at reel 9653, frame 0952.

**2. RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences known to appellant, the appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**3. STATUS OF CLAIMS**

Claims 1, 2 and 4-23 are pending in the Application. Of these pending claims, Claims 4, 5, 9, 11, 12, 14-17 and 19-23 have been withdrawn from consideration based upon an election of species. Claims 1-2, 6-8, 10, 13 and 18 are the subject matter for this Appeal.

Claims 1, 2 and 6 were rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi (JP 51-148093).

Claims 7, 8 and 18 were rejected under 35 U.S.C. 103 (a) as being unpatentable over Takahashi in view of Sugiyama (JP 63-178277).

Claim 10 was rejected under 35 U.S.C. 103 (a) as being unpatentable over Takahashi in view of Moore.

Claim 13 was rejected under 35 U.S.C. 103 (a) as being unpatentable over Takahashi in view of Aulanko et al.

4. **STATUS OF AMENDMENTS**

No amendments were submitted subsequent to the Final Rejection.

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5. **SUMMARY OF INVENTION**

Claim 1 is directed to an elevator system having the elevator motor located in a convenient location for both space optimization and serviceability. Claim 1 includes a hoistway having a plurality of hoistway doors and a ceiling, an elevator car located in the hoistway, and a drive motor coupled to the car. The drive motor is located immediately adjacent to one of the top and bottom portion of a hoistway door.

This particular location of the drive motor is advantageous first of all because it optimizes the use of space for the elevator system. The drive motor is located in the space either above or below the hoistway doors, therefore no separate machineroom above, below or to the side of the hoistway is required. Second, this location makes it possible to access the drive motor from the landing area in front of the hoistway doors. This improves the serviceability of the drive motor as compared to other machineroom-less elevator system that have the drive motor located within the hoistway such that it is only accessible from a position within the hoistway.

Claims 2, 6, 10 and 13 are directed to various advantageous features that are combined with the invention of Claim 1.

Support for the invention of Claims 1, 2, 6, 10 and 13 is found on page 1, line 23 to page 5, line 13, page 5, line 37 to page 6, line 6, page 7, line 11 to 27, and in figures 1-3, 5, 6, 8 and 9.

Claims 7, 8 and 18 are directed to an embodiment that is patentably distinct from that described above and is grouped separately for this Appeal. This invention includes an elevator system having a similar location as that described above for Claim 1, but further including a housing for enclosing the drive motor and that has a movable panel protruding externally of the hoistway into the adjacent hallway, such that the drive motor is accessible from a position in front of the hoistway door.

This panel facilitates service of the drive motor without sacrificing the machinerom-less feature of the elevator system. By providing access from the space in front of the hoistway door, a mechanic can safely and more easily access the drive motor to perform maintenance services.

Support for the invention of Claims 7, 8 and 18 is found on page 4, line 30-37 and in figure 1.

**6. ISSUE**

(1) Whether Claims 1, 2 and 6 are anticipated under 35 U.S.C. 102(b) by Takahashi?

(2) Whether the Examiner has met his burden to establish a prima facie case of obviousness under 35 U.S.C. 103 in the rejection of Claims 7, 8 and 18 as unpatentable over Takahashi in view of Sugiyama?

(3) Whether the Examiner has met his burden to establish a prima facie case of obviousness under 35 U.S.C. 103 in the rejection of Claim 10 as unpatentable over Takahashi in view of Moore?

(4) Whether the Examiner has met his burden to establish a prima facie case of obviousness under 35 U.S.C. 103 in the rejection of Claim 13 as unpatentable over Takahashi in view of Aulanko et al.?

**7. GROUPING OF THE CLAIMS**

For the purposes of this Appeal, claims 1-2, 6-8, 10, 13 and 18 do not stand or fall together and will be addressed in the following groups:

Group 1: Claims 1-2, 6, 10 and 13;

Group 2: Claims 7, 8 and 18;

An explanation of why the Applicant believes the identified groups of claims are separately patentable was presented in the Summary of Invention section above.

## 8. ARGUMENT

### (1) Whether Claims 1, 2 and 6 are anticipated under 35 U.S.C. 102(b) by Takahashi?

For a claim rejection under 35 U.S.C. 102 to be valid, each and every element of the claim must be disclosed in the reference cited<sup>1</sup>. No structural or functional difference between a claimed invention and the prior art may be ignored<sup>2</sup> and the Examiner must show where the reference discloses explicitly, or inherently, each such element.

According to the Final Rejection, Takahashi shows all elements of the claimed invention, including having the drive motor 5 located *immediately adjacent* to one of a top or bottom portion of a hoistway door. The Final Rejection cites Merriam Webster's Collegiate Dictionary, 10 Ed. to provide a definition of the word "adjacent" as "not distant; nearby".

While Applicants do not argue with the definition of "adjacent" as put forth in the Final Rejection, Applicants wish to point out that the claim requires that the drive motor be "*immediately adjacent*" the hoistway door and not simply "nearby" the door. This requires the drive motor to be right next to the hoistway door as shown in Figure 1 of Applicants' application, for instance. In this figure, the drive motor 24 is directly above and right next to the hoistway door 16.

The prior art cited in the Final Rejection, Takahashi, shows a drive motor 5 in a machine space above and to the side of the hoistway. Immediately above the hoistway door is a wall that extends up to the ceiling above the landing. Between the hoistway door and the drive motor are the extension of the hoistway wall, the ceiling above the landing area, and foundation type material 12 to support the drive motor. Even assuming for arguments sake that the drive motor 5 of Takahashi is adjacent to the hoistway door, the drive motor of Takahashi is clearly not "immediately adjacent" to the hoistway door.

The Final Rejection further alleges that there is no clear distinction between figure 1 of Takahashi and figure 1 of Applicants' application. According to the Final Rejection, in both cases the door and the motor are separated by mounting brackets, a substantial empty

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<sup>1</sup> Atlas Powder v. E.I. du Pont, 750 F.2d 1569, 224 U.S.P.Q. 409 (Fed. Cir. 1984); Jamesbury Corp. v. Litton Industrial Products, 756 F.2d 1556, 225 U.S.P.Q. 253 (Fed. Cir. 1985).

<sup>2</sup> Lewmar Marine, Inc. v. Barient, 827 F.2d 744, 3 USPQ2d 1766 (Fed. Cir. 1987); Raytheon Co. v. Roper Corp., 724 F.2d 951, 220 USPQ 592 (Fed. Cir. 1983).

space and the door header structure. This analysis completely ignores the wall, ceiling and foundation type material 12 shown in Takahashi.

With respect to the rejection of claims 1, 2 and 6, Takahashi does not disclose a drive motor immediately adjacent to the hoistway door. Therefore, each and every element of claims 1, 2 and 6 is not shown and Takahashi does not anticipate these claims.

**(2) Whether the Examiner has met his burden to establish a prima facie case of obviousness under 35 U.S.C. 103 in the rejection of Claims 7, 8 and 18 as unpatentable over Takahashi in view of Sugiyama?**

Applicants respectfully submit that the Examiner has not met the burden of proof required to support a rejection under 35 U.S.C. §103. When an application is submitted to the Patent and Trademark Office, case law dictates that 35 U.S.C. §103 places the burden of proof on the PTO to establish a prima facie case of obviousness.<sup>3</sup> Once the prima facie case has been established, then the burden of going forward with the evidence to rebut the prima facie case shifts to the applicant. Only the burden of going forward with evidence to rebut shifts to the applicant, however. The burden of persuasion remains with the PTO.

Further, in order to support a prima facie obviousness type rejection, the Examiner must take into account all the limitations in the rejected claim<sup>4</sup>, including any limitations expressed using functional language<sup>5</sup>. Further, the obviousness must be determined based on the claimed subject matter as a whole, including any results and advantages produced by the claimed subject matter<sup>6</sup>.

In the application at hand, the Examiner in the Final Rejection states that Takahashi discloses all elements of the claimed invention except a movable panel protruding into the elevator hallway above the hoistway door. Further, the Final Rejection cites Sugiyama as disclosing a movable panel protruding into a landing.

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<sup>3</sup>In re Fritch, 23 U.S.P.Q. 2d. 1780 (Fed. Cir. 1992), In re Piasecki, 745 F.2d. 1468, 1471-1472, 223 U.S.P.Q. 785, 787-788 (Fed. Cir. 1984).

<sup>4</sup>Carl Schenck, A.G. v. Nortron Corp., 713 F.2d 782, 218 U.S.P.Q. 698 (Fed. Cir. 1983); Carman Industries v. Wahl, 724 F.2d 932, 220 U.S.P.Q. 481 (Fed. Cir. 1983).

<sup>5</sup>Lewmar Marine, Inc. v. Barient, Inc., 827 F.2d 744, 3 U.S.P.Q.2d 592 (Fed. Cir. 1983).

<sup>6</sup>Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 7 U.S.P.Q.2d 1315 (Fed. Cir. 1988); In re Chupp, 816 F.2d 643, 2 U.S.P.Q.2d 1437 (Fed. Cir. 1987); Fromson v. Advanced Offset Plate, 755 F.2d 1549, 225 U.S.P.Q. 26 (Fed. Cir. 1985).

This rejection fails to take into account all the limitations of Claims 7, 8 and 18. First, Takahashi, as accurately described in the Final Rejection, does not disclose a movable panel. More importantly, however, Takahashi does not disclose having the drive motor in a location that is amenable to having access from a position in front of the hoistway door even if Takahashi did disclose a moveable panel. Therefore, even if a moveable panel was added to the embodiment of Takahashi, either to the ceiling or walls of the machine space of Takahashi, it would not provide access from a position in front of the hoistway door. Any moveable panel added to Takahashi would at best require a mechanic to climb into the machine space to access the drive motor.

Second, the moveable panels of Sugiyama may provide an opening for access to a drive motor, however, as combined with Takahashi, this opening is into a space *above* the hallway or landing area. Therefore, the combination of the moveable panels disclosed in Sugiyama and the drive motor location of Takahashi would only result in access from a position above the landing area. This arrangement would fail to provide the benefits and advantages of Applicants' claimed invention as it would not provide convenient access from a position in front of the hoistway door.

Therefore, with respect to Claims 7, 8 and 18, this combination does not take into account all the limitations in the rejected claims and the Final Rejection has failed to establish a prima facie case of obviousness.

**(3) Whether the Examiner has met his burden to establish a prima facie case of obviousness under 35 U.S.C. 103 in the rejection of Claim 10 as unpatentable over Takahashi in view of Moore?**

Claim 10 depends from Claim 1 and 6 and, for the reasons discussed previously relative to the failings of the disclosure of Takahashi to disclose or teach a drive motor immediately adjacent to the hoistway door, this rejection fails to take into account all the limitations in Claim 10.

Therefore, with respect to the rejection of claim 10, the Examiner has failed to meet his burden to establish a prima facie case of obviousness under 35 U.S.C. 103

**(4) Whether the Examiner has met his burden to establish a prima facie case of obviousness under 35 U.S.C. 103 in the rejection of Claim 13 as unpatentable over Takahashi in view of Aulanko et al.?**

Claim 13 depends from Claim 1 and, for the reasons discussed previously relative to the failings of the disclosure of Takahashi to disclose or teach a drive motor immediately adjacent to the hoistway door, this rejection fails to take into account all the limitations in Claim 13.

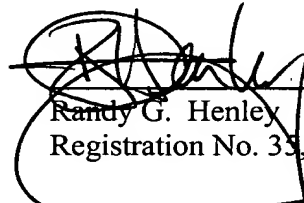
Therefore, with respect to the rejection of claim 13, the Examiner has failed to meet his burden to establish a prima facie case of obviousness under 35 U.S.C. 103

**CONCLUSION**

As Applicants have traversed each and every rejection raised by the Examiner, it is respectfully requested that the rejections be reversed and the rejected claims be passed to issue. Please charge any additional fees or credit overpayment to Deposit Account No. 15-0750, Order No. OT-4329.

Respectfully submitted,

Leandre Adifon et al.

  
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9. **APPENDIX**

Claims involved in the Appeal:

1. An elevator system, comprising:  
a hoistway having a plurality of hoistway doors and a ceiling;  
an elevator car and at least one counterweight located in the hoistway; and  
a drive motor drivingly coupled to the elevator car and counterweight via elongated connectors, the drive motor being located immediately adjacent to one of a top and bottom portion of a hoistway door and below the hoistway ceiling.
2. An elevator system as defined in claim 1, wherein the drive motor is located above a top portion of a topmost hoistway door.
6. An elevator system as defined in claim 1, further including a housing for substantially enclosing the drive motor relative to an adjacent hallway.
7. An elevator system as defined in claim 6, wherein the housing includes a movable panel protruding externally of the hoistway into the adjacent hallway, the movable panel providing access to the drive motor from a position in front of the adjacent hoistway door.
8. An elevator system as defined in claim 7, wherein the movable panel is located above a hoistway door.
10. An elevator system as defined in claim 6, further including a drive unit and a controller, and wherein the drive motor, drive unit and controller are substantially enclosed by the housing.
13. An elevator system as defined in claim 1, further including at least two elevator sheaves coupled to an underside of the elevator car, and wherein a portion of the elongated connection underslings the elevator car to minimize overhead space between a top of the elevator car and a ceiling of the hoistway.

18. An elevator system, comprising:

a hoistway having a hoistway door and a ceiling;

an elevator car located in the hoistway;

a drive motor drivingly coupled to the elevator car, the drive motor being located in a fixed position immediately adjacent to one of a top and bottom portion of a hoistway door and below the hoistway ceiling; and

a housing for substantially enclosing the drive motor relative to an adjacent hallway, wherein the housing includes a movable panel protruding externally of the hoistway into the adjacent hallway, the movable panel providing access to the drive motor from a position in front of the hoistway door.